

Patent Abstracts of Japan

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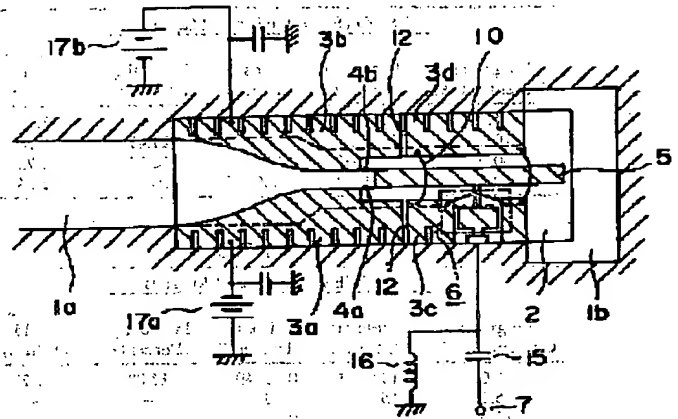
APPLICATION NUMBER : 04048566

APPLICANT : MITSUBISHI ELECTRIC CORP.

INVENTOR : IIDA AKIO;

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TITLE : FREQUENCY CONVERTER



**ABSTRACT :** PURPOSE: To cool the entire frequency converter and to attain ultralow noise by interrupting the harmonic propagation mode of a coplaner line provided to a position apart by a  $\lambda/4$  ( $\lambda$  is a wavelength) from a connection section between a slot line and a coplaner line with respect to a signal propagated through a slot line so as to eliminate the need for a synthesizing circuit.

**CONSTITUTION:** A high frequency signal propagated from a waveguide 1a is inputted to superconducting elements 4a, 4b through a slot line comprising conductors 3a, 3b on a fin line and a dielectric board 2. On the other hand, a local oscillation signal propagated through a waveguide 1b is inputted to superconducting elements 4a, 4b via a coplaner line comprising conductors 3c, 3d and a strip conductor 5 on a probe and a dielectric board 2. A high frequency signal and a local oscillation signal inputted to the superconducting elements 4a, 4b are frequency-mixed by the superconducting elements 4a, 4b to generate an intermediate frequency signal. The intermediate frequency signal is inputted to a band blocking filter 6 via coplaner line.

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